

CLAIMS

1. A method for analyzing an interaction between a sugar chain and a protein that interacts with a sugar chain, wherein the method comprises the steps of:
 - 5 (a) contacting a fluorescently labeled subject sugar chain or subject glycoconjugate with a substrate onto which a protein that interacts with a sugar chain has been immobilized; and
 - (b) measuring the intensity of an excited fluorescence after applying an excitation light without washing the substrate.
- 10 2. The method of claim 1, wherein the substrate onto which the protein that interacts with the sugar chain has been immobilized is a substrate coated with a compound comprising an epoxy group as an active group.
- 15 3. The method of claim 2, wherein the compound comprising an epoxy group as an active group is 3-glycidoxypropyl trimethoxysilane (GTMS).
4. A method for analyzing an interaction between a sugar chain and a protein that interacts with a sugar chain, wherein the method comprises the steps of:
 - 5 (a) contacting a protein that interacts with a fluorescently labeled sugar chain with a substrate onto which a subject glycoconjugate has been immobilized; and
 - 20 (b) measuring the intensity of an excited fluorescence after applying an excitation light without washing the substrate.
- 25 5. The method of claim 4, wherein the substrate onto which the subject glycoconjugate has been immobilized is a substrate coated with a compound comprising an epoxy group as an active group.
- 30 6. The method of claim 5, wherein the compound comprising an epoxy group as an active group is 3-glycidoxypropyl trimethoxysilane (GTMS).
7. A method for analyzing an interaction between a sugar chain and a protein that interacts with a sugar chain, wherein the method comprises the steps of:
 - 5 (a) contacting a subject glycoconjugate with a substrate onto which a protein that interacts with a region other than a sugar chain of a glycoconjugate has been immobilized;
 - 35 (b) contacting a fluorescently labeled protein that interacts with a sugar chain with the substrate obtained in step (a); and

(c) measuring the intensity of an excited fluorescence after applying an excitation light without washing the substrate.

8. The method of claim 7, wherein the substrate onto which the protein that interacts with a region other than a sugar chain of a glycoconjugate has been immobilized is a substrate coated with a compound comprising an epoxy group as an active group.

9. The method of claim 8, wherein the compound comprising an epoxy group as an active group is 3-glycidoxypropyl trimethoxysilane (GTMS).

10. The method of any one of claims 7 to 9, wherein the protein that interacts with a region other than a sugar chain of a glycoconjugate is an antibody.

11. The method of any one of claims 1 to 10, wherein the protein that interacts with a sugar chain is a lectin, an enzymatic protein comprising a sugar-binding domain, a cytokine having an affinity for a sugar chain, or an antibody that interacts with a sugar chain.

12. The method of any one of claims 1 to 11, wherein the excitation light is an evanescent wave.

20 13. The method of any of claims 1 to 12, wherein the glycoconjugate is a glycoprotein, a proteoglycan, or a glycolipid.

25 14. A substrate coated with a compound comprising an epoxy group as an active group and onto which a protein that interacts with a sugar chain or a protein that interacts with a region other than a sugar chain of a glycoconjugate has been immobilized.

15. The substrate of claim 14, wherein the compound comprising an epoxy group as an active group is 3-glycidoxypropyl trimethoxysilane (GTMS).

30 16. The substrate of claim 14 or 15, wherein the protein that interacts with a region other than a sugar chain of a glycoconjugate is an antibody.

35 17. The substrate of claim 14 or 15, wherein the protein that interacts with a sugar chain is a lectin, an enzymatic protein comprising a sugar-binding domain, a cytokine having an affinity for a sugar chain, or an antibody that interacts with a sugar chain.

18. The substrate of any one of claims 14 to 17, wherein the glycoconjugate is a glycoprotein, a proteoglycan, or a glycolipid.

5 19. A method for producing a substrate, wherein the method comprises the steps of:
(a) coating the substrate with a compound comprising an epoxy group as an active group; and
(b) immobilizing a protein that interacts with a sugar chain or a protein that interacts with a region other than a sugar chain of a glycoconjugate onto the substrate obtained in step (a).

10 20. The method of claim 19, wherein the protein that interacts with a region other than a sugar chain of a glycoconjugate is an antibody.

15 21. The method of claim 19, wherein the protein that interacts with a sugar chain is a lectin, an enzymatic protein comprising a sugar-binding domain, a cytokine having an affinity for a sugar chain, or an antibody that interacts with a sugar chain.

22. The method of any one of claims 19 to 21, wherein the glycoconjugate is a glycoprotein, a proteoglycan, or a glycolipid.